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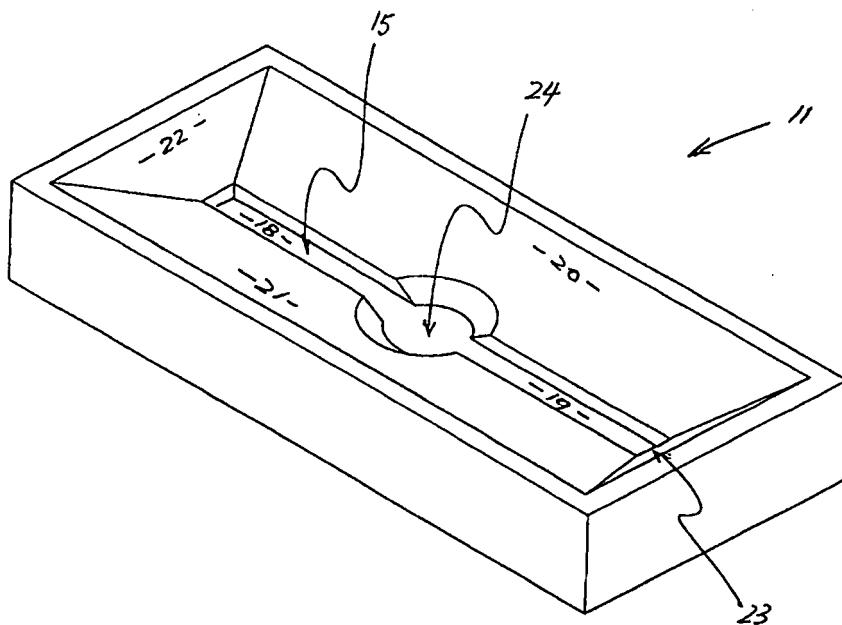
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(54) Title: CONTAINER FOR SHARP INSTRUMENTS



(57) Abstract

A container (11) is disclosed for holding a sharp instrument during surgical procedures, the sharp instrument having a handle portion and a cutting portion, the container having an instrument recess (15) adapted to receive at least the cutting portion of the sharp instrument, and guide means (20, 21) for guiding a sharp instrument placed in the container to the instrument recess; the arrangement being such that a sharp instrument received within the instrument recess is positioned therein such that the cutting portion thereof is not directed towards the opening of the instrument recess whereby a user's fingers are substantially prevented from contacting the cutting portion.

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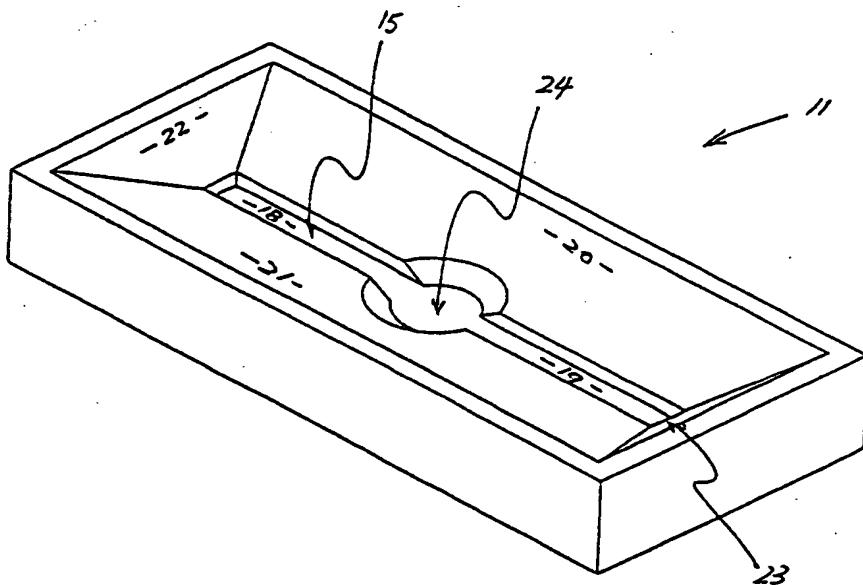
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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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CONTAINER FOR SHARP INSTRUMENTS



(57) Abstract

A container (11) is disclosed for holding a sharp instrument during surgical procedures, the sharp instrument having a handle portion and a cutting portion, the container having an instrument recess (15) adapted to receive at least the cutting portion of the sharp instrument, and guide means (20, 21) for guiding a sharp instrument placed in the container to the instrument recess; the arrangement being such that a sharp instrument received within the instrument recess is positioned therein such that the cutting portion thereof is not directed towards the opening of the instrument recess whereby a user's fingers are substantially prevented from contacting the cutting portion.

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PTO/PCT Rec'd 21 JUL 1998

## CONTAINER FOR SHARP INSTRUMENTS

**Technical Field**

This invention relates to containers.

5 The invention has particular but not exclusive application to containers such as trays for use in surgical procedures for holding a sharp instrument having a cutting portion.

As used herein the expression "sharp instrument" 10 includes equipment which can cut, puncture or otherwise be invasive such as scalpels, needles and other sharp or pointed surgical instruments. The expression "cutting portion" is to be taken to include any surface, edge or point which cuts, punctures or is otherwise invasive and 15 includes a scalpel blade and a needle point.

**Background of Invention**

During an operation, a scalpel is transferred between surgeon and scrub nurse or other assistant either 20 directly from hand to hand, or more frequently by one person placing it in a tray for the other to pick up. The tray currently used for this purpose is an open topped kidney shaped dish which provides users with no protection against accidental injury from the scalpel 25 blade. Many other instruments such as suture needles and Veress needles are passed directly between the surgeon and scrub nurse or other assistant.

The present invention aims to provide an alternative to known containers, systems and methods for the handling 30 of sharp instruments during surgical procedures.

**Summary of Invention**

This invention in one aspect resides broadly in a container for holding a sharp instrument having a handle portion and a cutting portion during surgical procedures, 35 the container including:-

an instrument recess adapted to receive at least the cutting portion of the sharp instrument, and

guide means for guiding a sharp instrument placed in the container to the instrument recess;

the arrangement being such that a sharp instrument received within the instrument recess is positioned 5 therein such that the cutting portion thereof is not directed towards the opening of the instrument recess whereby a user's fingers are substantially prevented from contacting the cutting portion.

The guide means may converge toward the instrument 10 recess and in a preferred embodiment the container includes inclined walls converging to the opening, the inclined walls constituting the guide means.

In one embodiment the instrument recess is elongated and closed at each end, is adapted to receive a scalpel 15 and along two opposite lengths thereof has a cross sectional configuration of width slightly greater than the major cross-sectional dimension of a scalpel and depth slightly greater than the minor cross-sectional dimension of a scalpel, the length of the instrument 20 recess being such that the scalpel blade is located within one of the opposite lengths irrespective of the position of the scalpel in the instrument recess.

It is preferred that the instrument recess has sidewalls and a base, the junctions thereof being 25 radiussed such that a scalpel is disposed to rest in the recess with its major cross-sectional dimension parallel to the base.

The container may include access means for providing a user with access to the scalpel handle for removing the 30 scalpel from the instrument recess.

The access means could be a pivoting lever arrangement adapted to elevate the scalpel handle portion or alternatively a portion of the container sidewall can pivot to achieve this effect. However the access means 35 is preferably a finger access recess, the cross sectional configuration of the finger access recess being such as to allow a user's fingers to contact the scalpel handle for removing the scalpel from the instrument recess, the

position of the finger access recess being such that the scalpel blade is not located within the finger access recess irrespective of the position of the scalpel in the instrument recess.

5       The container may include barrier means for preventing a user's fingers entering the instrument recess. The barrier means may constitute the opening to the instrument recess, the width of the opening being such as to allow a scalpel to enter the recess but to  
10 prevent a user's fingers entering the recess.

In one preferred embodiment the container may include handle means whereby a user can hold the container. Alternatively, the container may include handle mounting means for mounting a detachable handle  
15 whereby a user can hold the container.

In another embodiment the container has a plurality of the instrument recesses each adapted to receive a scalpel therein.

20      In a further embodiment the container is adapted to contain a suture needle holder and a suturing needle held thereby, and the instrument recess is substantially semi-cylindrical and adapted to receive the suturing needle.

25      In an alternative embodiment the container is adapted to contain a straight needle and a suture threaded thereto, and the instrument recess is elongated and closed at one end and adapted to receive the straight needle, the container also including a suture recess for receiving the suture. This arrangement may also be included in the container adapted to contain a suture  
30      needle holder and a suturing needle.

In another aspect this invention resides broadly in a container for holding a scalpel during surgical procedures, the container including:-

35      an elongated scalpel recess closed at each end and adapted to receive a scalpel, and having two opposite lengths of cross-sectional configuration with width slightly greater than that of the major cross-sectional dimension of the scalpel and depth slightly greater than

that of the minor cross-sectional dimension of the scalpel, the length of the scalpel recess being such that the scalpel blade is located within one of the opposite lengths irrespective of the position of the scalpel in 5 the scalpel recess, and

guide means for guiding a scalpel placed in the container to the scalpel recess;

the arrangement being such that a scalpel received within the scalpel recess is positioned therein such that 10 the scalpel blade is not directed towards the opening of the scalpel recess whereby a user's fingers are substantially prevented from contacting the scalpel blade.

In a further aspect this invention resides broadly 15 in a container for holding a suture needle holder and a suturing needle held thereby during surgical procedures, the container including:-

a substantially semi-cylindrical needle recess adapted to receive the suturing needle therein, and

20 guide means for guiding a suturing needle held by a suture needle holder to the needle recess;

the arrangement being such that a suturing needle received within the needle recess is positioned therein such that the point of the suturing needle is positioned 25 within the needle recess such that a user's fingers are substantially prevented from contacting the point.

In another aspect this invention also resides broadly in a container for holding a straight needle and a suture threaded thereto during surgical procedures, the 30 container including:-

an elongated needle recess closed at one end and adapted to receive a straight needle therein;

a suture recess for receiving the suture, and

35 guide means for guiding a straight needle placed in the container to the needle recess;

the arrangement being such that a straight needle received within the needle recess is positioned therein such that the point of the straight needle is positioned

within the needle recess such that a user's fingers are substantially prevented from contacting the point.

In another aspect this invention resides broadly in a method of transferring a sharp instrument having a handle portion and a cutting portion between operators during a surgical procedure, wherein:-

the transferor of the sharp instrument places the sharp instrument in an instrument recess in an instrument holding container, and

10 the receiver or transferee of the sharp instrument removes the sharp instrument from the instrument recess;

the instrument recess being adapted to receive at least the cutting portion of the sharp instrument, and the instrument holding container having guide means for 15 guiding a sharp instrument placed therein to the instrument recess, the arrangement being such that a sharp instrument received within the instrument recess is positioned therein such that the cutting portion thereof is not directed towards the opening of the instrument recess whereby an operator's fingers are substantially 20 prevented from contacting the cutting portion.

#### Description of Drawings

In order that this invention may be more easily 25 understood and put into practical effect, reference will now be made to the accompanying drawings which illustrate a preferred embodiment of the invention, wherein:-

FIGS 1 and 1A respectively are perspective and plan views of a container in accordance with the invention for 30 holding a scalpel;

FIGS 2 and 2A respectively are perspective and plan views of a container in accordance with the invention for holding a plurality of scalpels;

FIGS 3 and 3A respectively are perspective and plan 35 views of a container in accordance with the invention for holding a suturing needle holder and a suture needle held thereby;

FIGS 4 and 4A respectively are perspective and plan

**Claims**

1. A container for holding a sharp instrument having a handle portion and a cutting portion during surgical procedures, said container including:-
  - an instrument recess adapted to receive at least the cutting portion of said sharp instrument, and
  - guide means for guiding a sharp instrument placed in said container to said instrument recess;

the arrangement being such that a sharp instrument received within said instrument recess is positioned therein such that the cutting portion thereof is not directed towards the opening of the instrument recess whereby a user's fingers are substantially prevented from contacting said cutting portion.
2. A container as claimed in claim 1, wherein said container includes inclined walls converging to said opening, the inclined walls constituting said guide means.
3. A container as claimed in claim 1, wherein said instrument recess is elongated and closed at each end, is adapted to receive a scalpel and along two opposite lengths thereof has a cross sectional configuration of width slightly greater than the major cross-sectional dimension of a scalpel and depth slightly greater than the minor cross-sectional dimension of a scalpel, the length of said instrument recess being such that the scalpel blade is located within one of said opposite lengths irrespective of the position of the scalpel in the instrument recess.
4. A container as claimed in claim 3, wherein said instrument recess has sidewalls and a base, the junctions thereof being radiussed such that a scalpel is disposed to rest in the recess with its major cross-sectional dimension parallel to said base.

5. A container as claimed in claim 3, and including access means for providing a user with access to the scalpel handle for removing the scalpel from said instrument recess.

5

6. A container as claimed in claim 5, wherein said access means includes a finger access recess, the cross sectional configuration of said finger access recess being such as to allow a user's fingers to contact the scalpel handle for removing the scalpel from said instrument recess, the position of said finger access recess being such that the scalpel blade is not located within said finger access recess irrespective of the position of the scalpel in the instrument recess.

15

7. A container as claimed in claim 1, and including barrier means for preventing a user's fingers entering said instrument recess.

20 8. A container as claimed in claim 7, wherein said barrier means constitutes the opening to said instrument recess, the width of said opening being such as to allow a scalpel to enter the recess but to prevent a user's fingers entering the recess.

25

9. A container as claimed in claim 1, and including handle means whereby a user can hold the container.

30 10. A container as claimed in claim 1, and including handle mounting means for mounting a detachable handle whereby a user can hold the container.

35 11. A container as claimed in claim 1, and including a plurality of said instrument recesses each adapted to receive a scalpel therein.

12. A container as claimed in claim 1 and adapted to contain a suture needle holder and a suturing needle held

thereby, wherein said instrument recess is substantially semi-cylindrical and adapted to receive said suturing needle.

5 13. A container as claimed in claim 1 and adapted to contain a straight needle and a suture threaded thereto, wherein said instrument recess is elongated and closed at one end and adapted to receive said straight needle, and including a suture recess for receiving said suture.

10

14. A container as claimed in claim 12, and including a container as claimed in claim 13.

15. A container for holding a scalpel during surgical procedures, said container including:-

an elongated scalpel recess closed at each end and adapted to receive a scalpel, and having two opposite lengths of cross-sectional configuration with width slightly greater than that of the major cross-sectional dimension of the scalpel and depth slightly greater than that of the minor cross-sectional dimension of the scalpel, the length of said scalpel recess being such that the scalpel blade is located within one of said opposite lengths irrespective of the position of the scalpel in the scalpel recess, and

guide means for guiding a scalpel placed in said container to said scalpel recess;

the arrangement being such that a scalpel received within said scalpel recess is positioned therein such that the scalpel blade is not directed towards the opening of the scalpel recess whereby a user's fingers are substantially prevented from contacting the scalpel blade.

35 16. A container for holding a suture needle holder and a suturing needle held thereby during surgical procedures, the container including:-

a substantially semi-cylindrical needle recess

adapted to receive the suturing needle therein, and  
guide means for guiding a suturing needle held by a  
suture needle holder to said needle recess;  
the arrangement being such that a suturing needle  
5 received within said needle recess is positioned therein  
such that the point of the suturing needle is positioned  
within the needle recess such that a user's fingers are  
substantially prevented from contacting the point.

10 17. A container for holding a straight needle and a  
suture threaded thereto during surgical procedures, the  
container including:-

an elongated needle recess closed at one end and  
adapted to receive a straight needle therein;

15 a suture recess for receiving said suture, and  
guide means for guiding a straight needle placed in  
said container to said needle recess;

the arrangement being such that a straight needle  
received within said needle recess is positioned therein  
20 such that the point of the straight needle is positioned  
within the needle recess such that a user's fingers are  
substantially prevented from contacting the point.

18. A method of transferring a sharp instrument having a  
25 handle portion and a cutting portion between operators  
during a surgical procedure, wherein:-

the transferor of the sharp instrument places the  
sharp instrument in an instrument recess in an instrument  
holding container, and

30 the receiver or transferee of the sharp instrument  
removes the sharp instrument from said instrument recess;

35 said instrument recess being adapted to receive at  
least the cutting portion of said sharp instrument, and  
said instrument holding container having guide means for  
guiding a sharp instrument placed therein to said  
instrument recess, the arrangement being such that a  
sharp instrument received within said instrument recess  
is positioned therein such that the cutting portion

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thereof is not directed towards the opening of the instrument recess whereby an operator's fingers are substantially prevented from contacting said cutting portion.

5

## **I. Basis of the report**

This report has been drawn on the basis of (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

2. The amendments have resulted in the cancellation of:

the description, pages

the claims, Nos.

the drawings, sheets/fig

This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

**4. Additional observations, if necessary:**

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1 Statement**

Novelty (N)	Claims 1-18 Claims	YES NO
Inventive step (IS)	Claims 1-18 Claims	YES NO
Industrial applicability (IA)	Claims 1-18 Claims	YES NO

**2 Citations and explanations**

Claims 1-18:

- D1 US 4969554 A
- D2 WO 94/08642 A
- D3 US 3013656 A
- D4 FR 2646770 A
- D5 WO 88/08313 A
- D6 US 3696920 A
- D7 Allen & Hanbury's 1957 Catalogue, page 588, reference number 49100.

None of the above citations, nor obvious combination thereof, disclose a container for a sharp instrument that has inclined guide means for guiding a sharp instrument to an instrument recess in the container. Although it is obvious to make a container that matches the shape of the instrument being held by the container, the provision of guide means is considered to be non-obvious.

REC'D 10 MAR 1998

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference CAV00259, PCT/DAR:cgs	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International application No. <b>PCT/AU 97/00259</b>	International filing date 29 April 1997	Priority Date 30 April 1996
International Patent Classification (IPC) or national classification and IPC <b>Int. Cl. A61B 17/06 19/02</b>		
Applicant <b>CAVANAGH, Michael Shane</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of **3** sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of **11** sheet(s).

3. This report contains indications relating to the following items:

I	<input checked="" type="checkbox"/> Basis of the report
II	<input type="checkbox"/> Priority
III	<input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV	<input type="checkbox"/> Lack of unity of invention
V	<input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI	<input type="checkbox"/> Certain documents cited
VII	<input type="checkbox"/> Certain defects in the international application
VIII	<input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 14 October 1997	Date of completion of the report 26 February 1998
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE IP AUSTRALIA PO BOX 200 WODEN ACT 2606 AUSTRALIA Facsimile No. (02) 6285 3929	Authorized Officer  <i>D. Melhuish</i> <b>DAVID MELHUISH</b> Telephone No. (02) 6283 2426

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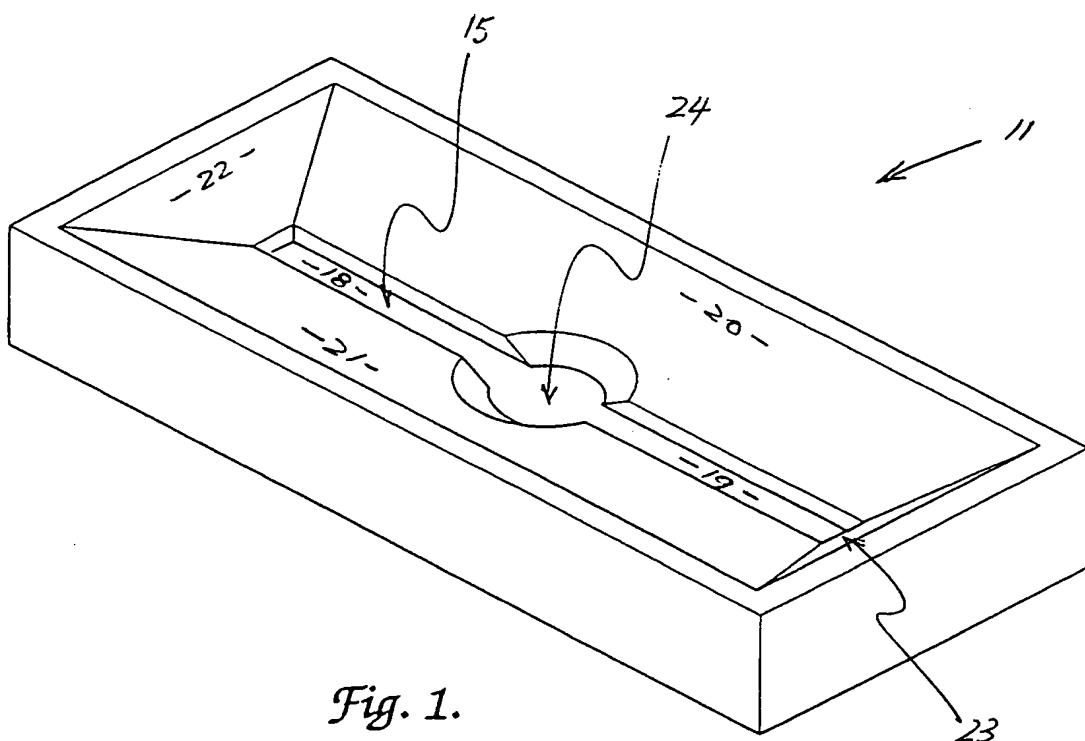


Fig. 1.

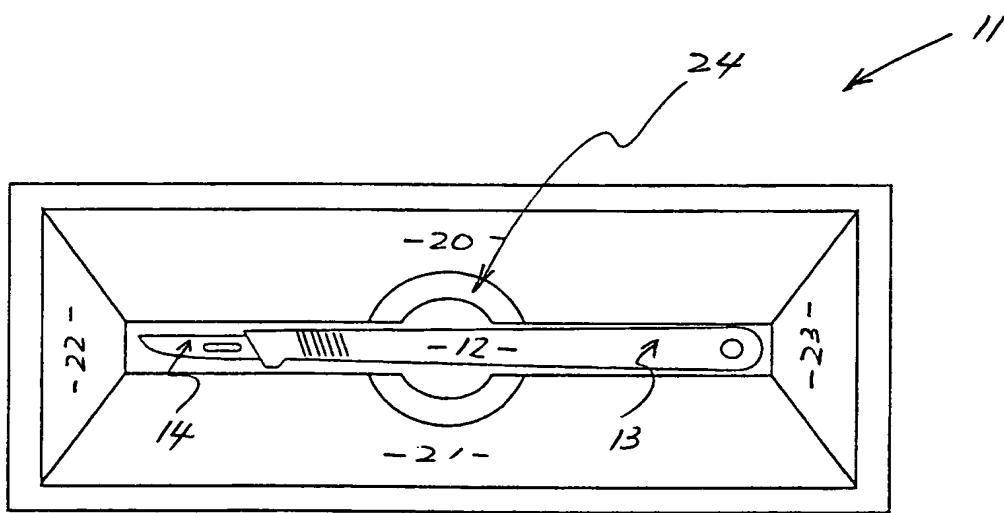


Fig. 1A.

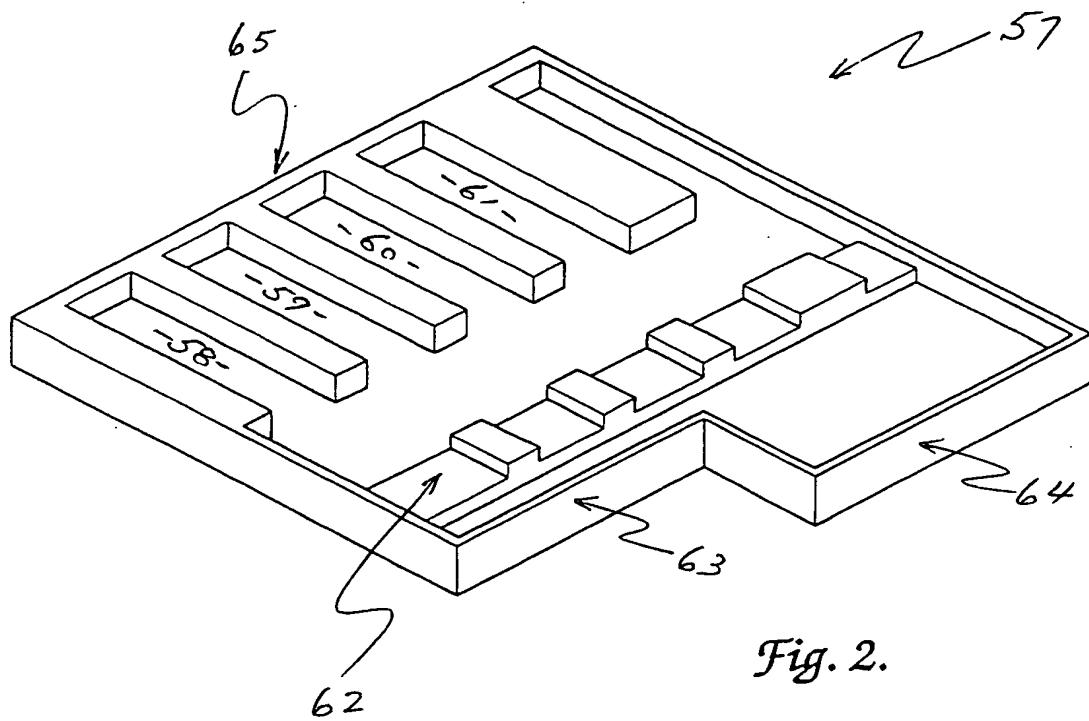


Fig. 2.

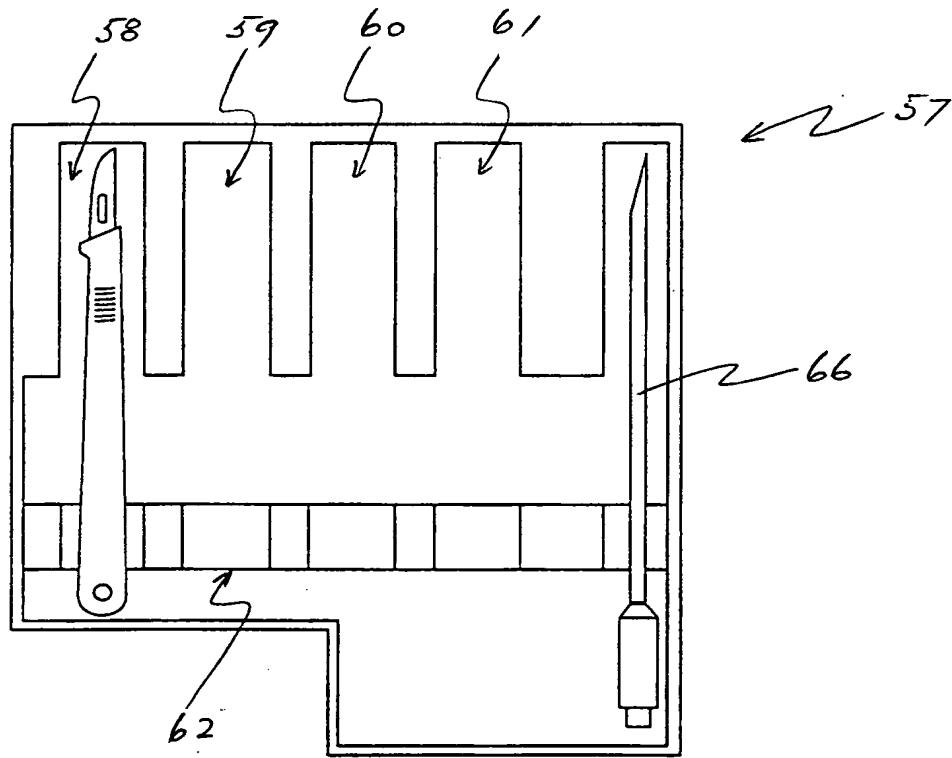


Fig. 2A.

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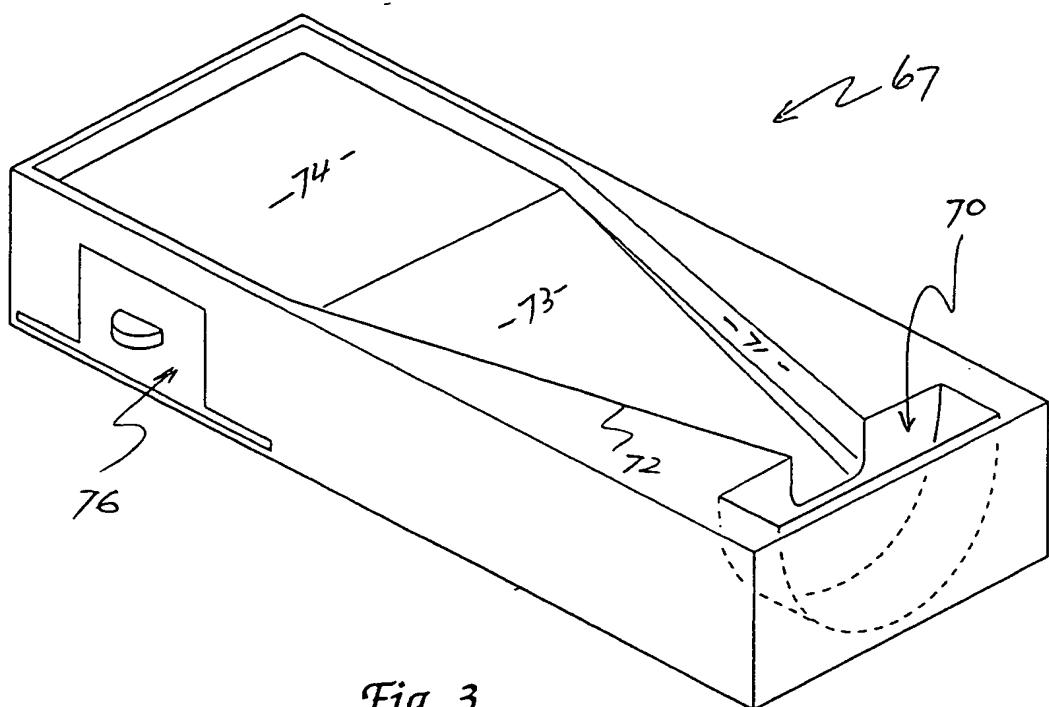


Fig. 3.

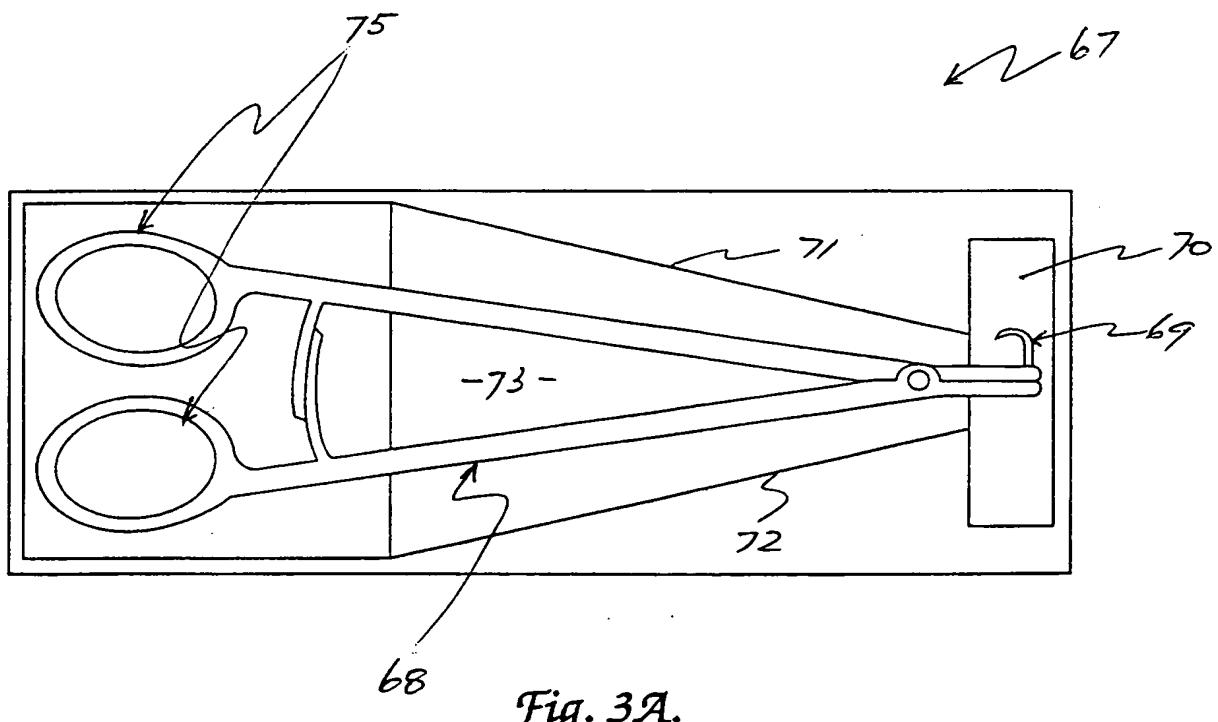


Fig. 3A.

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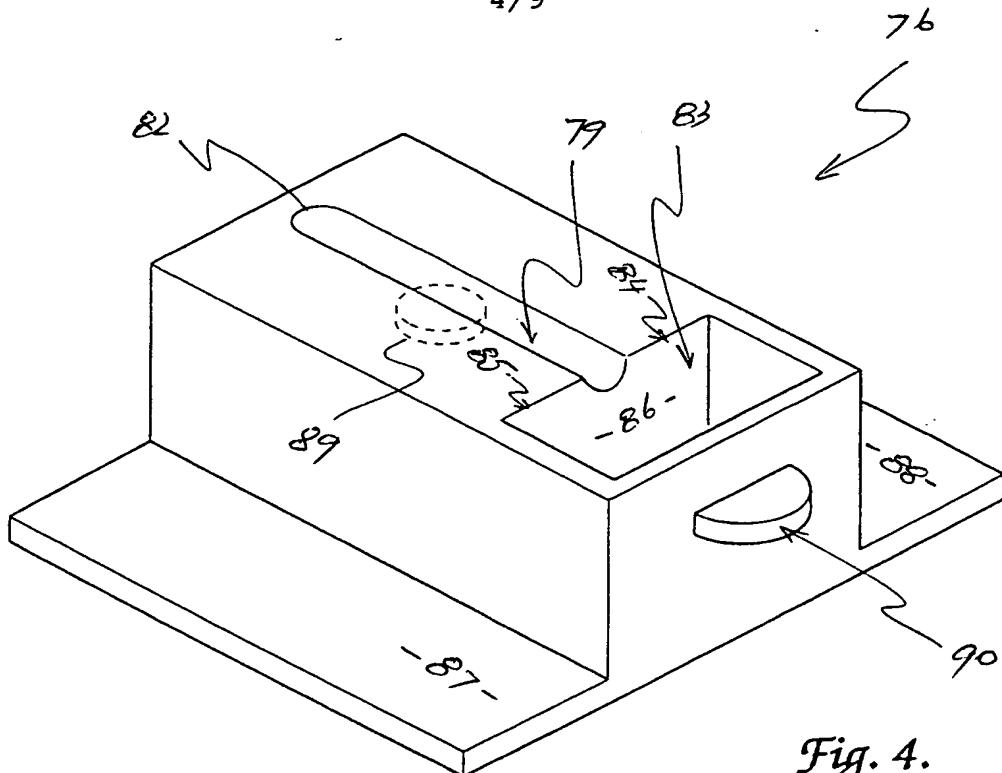


Fig. 4.

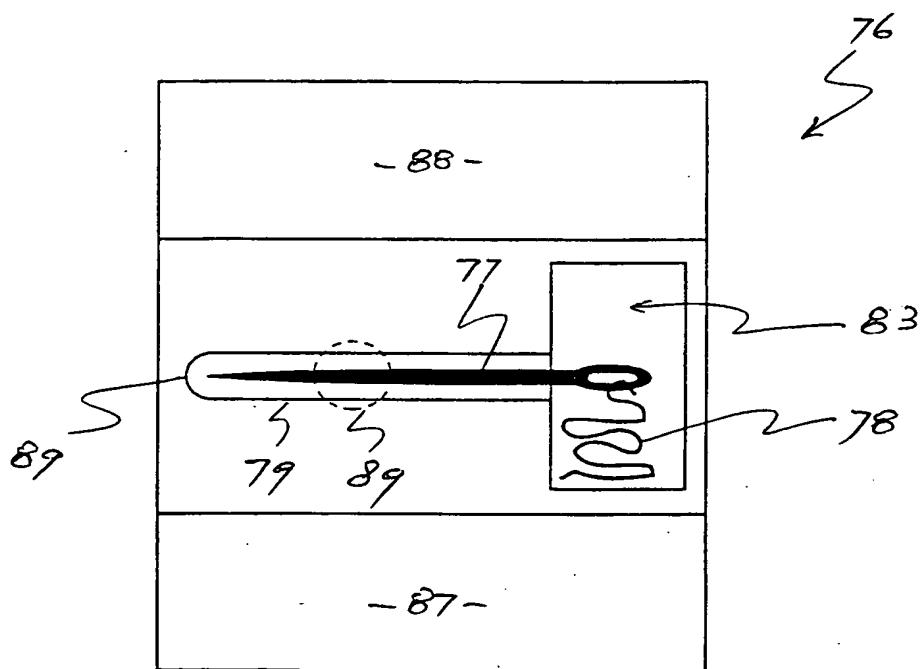


Fig. 4A.

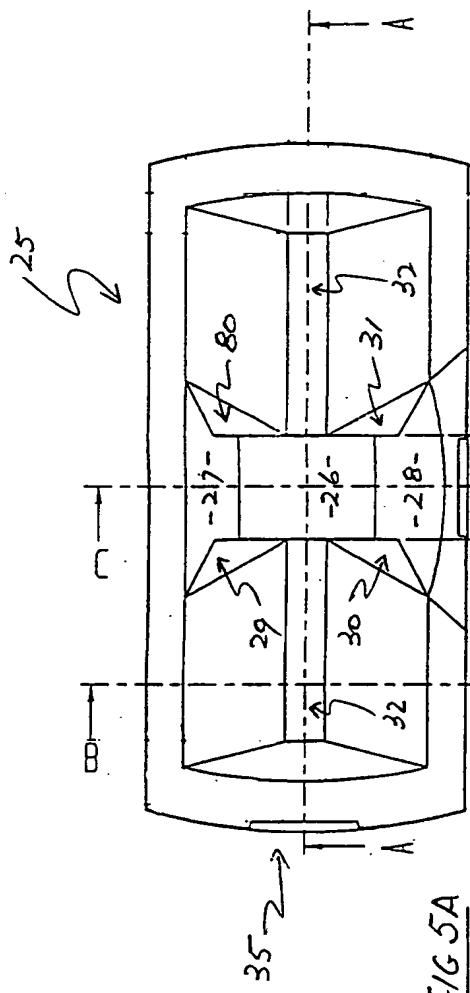


FIG 5A

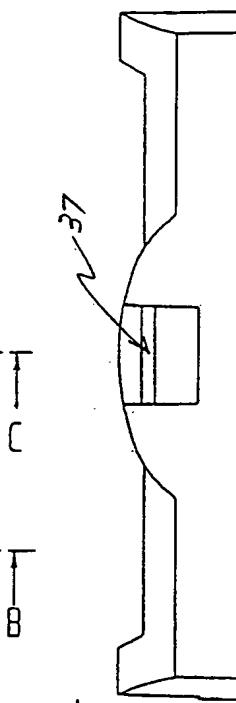
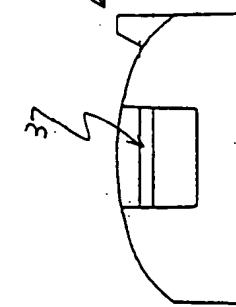


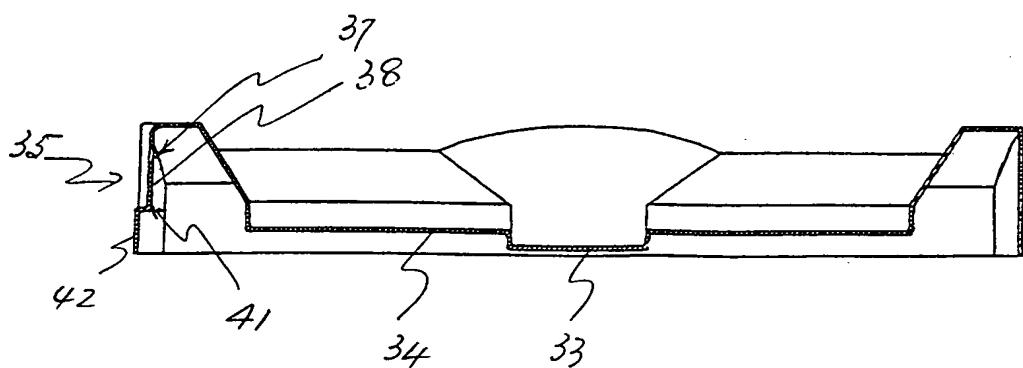
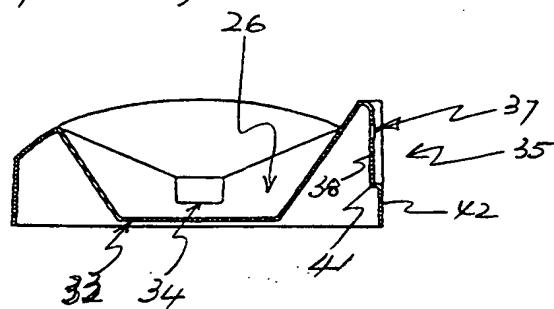
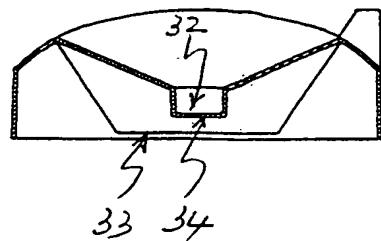
FIG 5D

FIG 5C

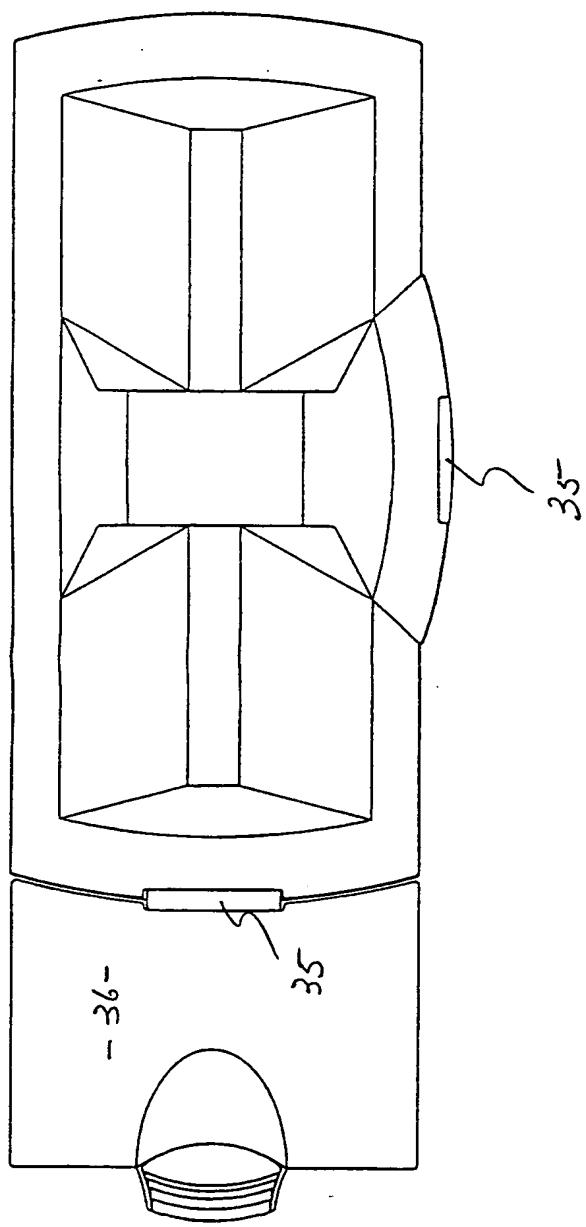
FIG 5B

FIG 5D

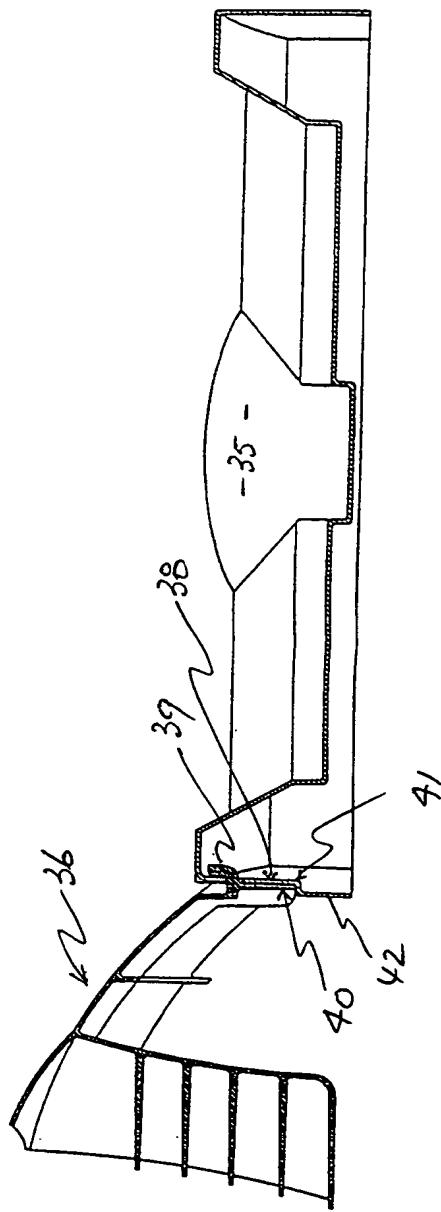
FIG 5E

FIG 6AFIG 6CFIG 6B

F/G 7A



F/G 7B



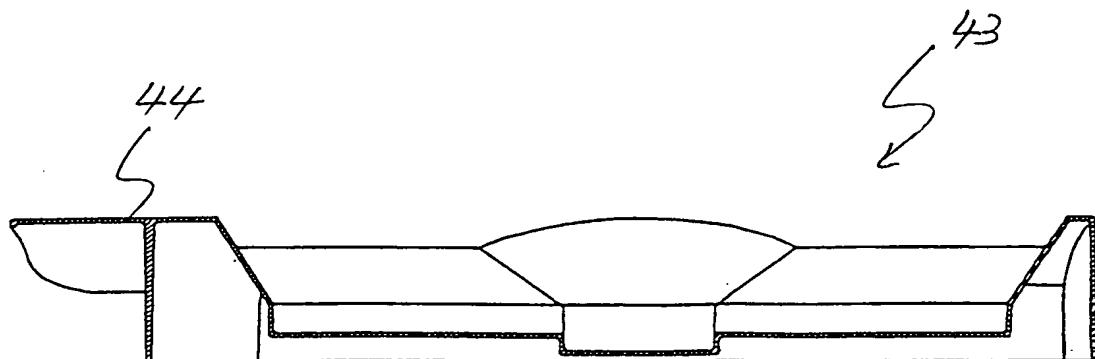


FIG 8A

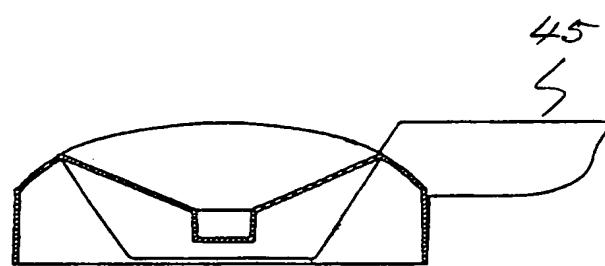


FIG 8B

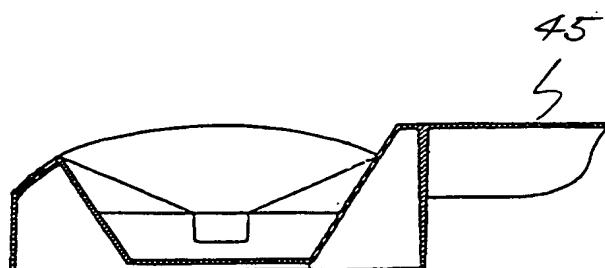


FIG 8C

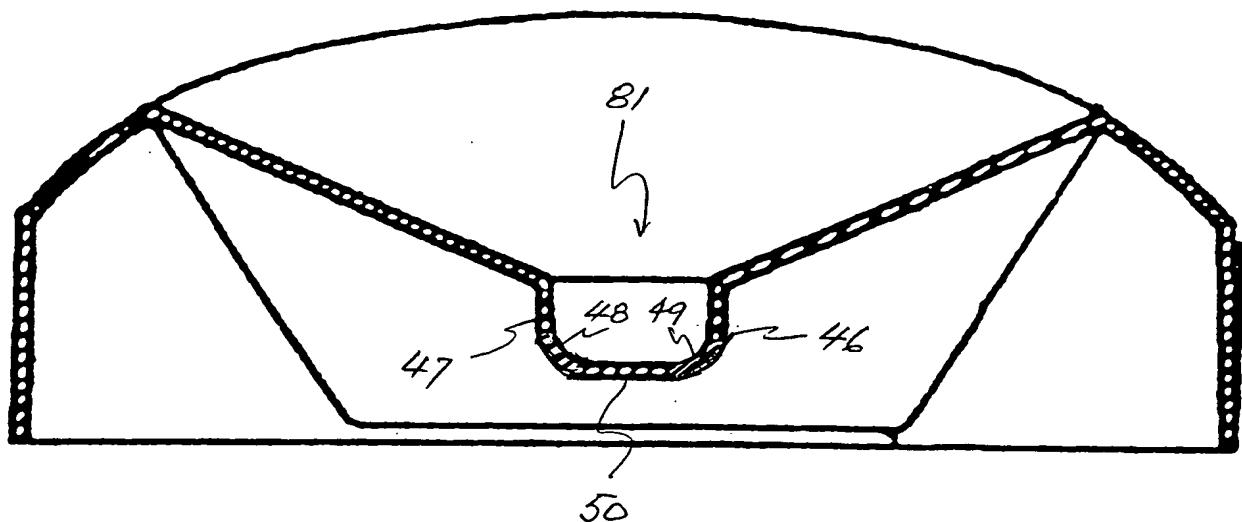


FIG 9

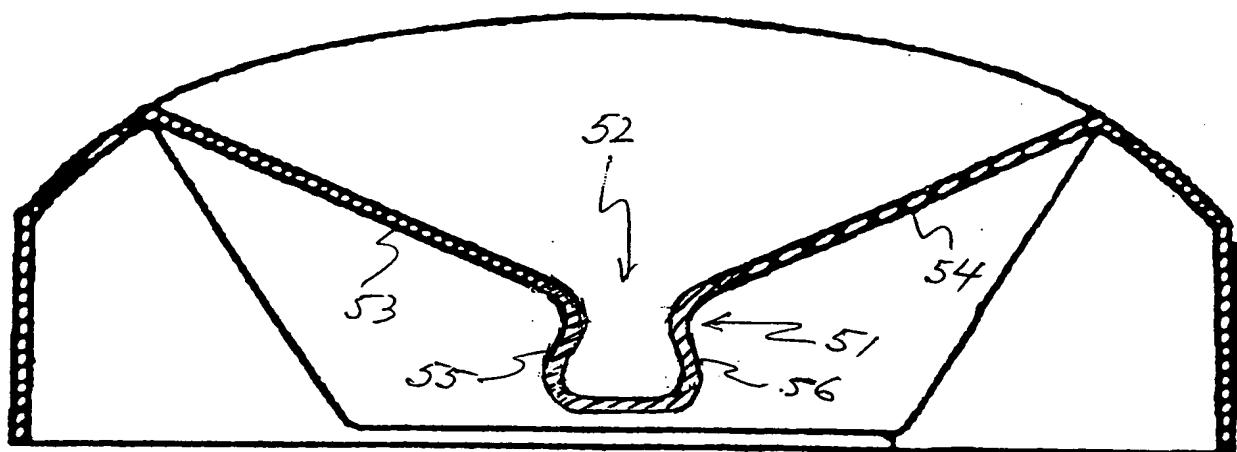


FIG 10

# INTERNATIONAL SEARCH REPORT

International Application No.

PCT/AU 97/00259

## A. CLASSIFICATION OF SUBJECT MATTER

Int Cl<sup>6</sup>: A61B 17/06 19/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC : A61B 17/06 19/02 B65D 85/20 85/24

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

AU : IPC as above, A61M 5/00

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DERWENT

JAPIO

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4969554 A (SAWAYA) 13 November 1990 column 1 line 66-68, Figure 1	1-4, 9, 10, 13, 14, 16-18
X	WO 94/08642 A (ABBOTT LABORATORIES) 28 April 1994 page 3 lines 15-16, figure 3	1, 3, 5-10, 12, 13, 16, 17
X	US 3013656 A (MURPHY) 19 December 1961 figure 1	1, 3, 5-10, 12, 13, 16, 17

Further documents are listed in the continuation of Box C

See patent family annex

\* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

2 June 1997

Date of mailing of the international search report

**23 JUN 1997**

Name and mailing address of the ISA/AU  
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PO BOX 200  
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Authorized officer

DAVID MELHUISH

Telephone No.: (06) 283 2426

## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/AU 97/00259

C (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2646770 A (PHONG) 16 November 1990 figure 1	1, 3, 5-10, 12
X	WO 88/08313 A (McCAMMON et al) 3 November 1988 page 7 line 24 - page 8 line 3	1, 2, 7-10
X	US 3696920 A (LAHAY) 10 October 1972 figure 1	1, 2, 7, 8, 12
X	Allen & Hanburys Catalogue 1957 edition. (Allen & Hanburys, London) page 588, reference number 49100	1, 7-9, 12

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No.

PCT/AU 97/00259

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report				Patent Family Member			
US	4969554	AU WO	72439/91 9111375	BR	9105880	EP	513178
WO	9408642	AU	46820/93				
FR	2646770						
WO	8808313	AU NO	15962/88 885694	EP US	310646 5187850	GB	2209949
END OF ANNEX							

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

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EE	Estonia						

Express Mail No. EM46391668145

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference CAV00259. PCT/DAR:cgs	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International application No. PCT/AU 97/00259	International filing date 29 April 1997	Priority Date 30 April 1996
International Patent Classification (IPC) or national classification and IPC <b>Int. Cl.</b> A61B 17/06 19/02		
Applicant CAVANAGH, Michael Shane		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.																
2. This REPORT consists of a total of 3 sheets, including this cover sheet. <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of 11 sheet(s).																
3. This report contains indications relating to the following items: <table><tr><td>I</td><td><input checked="" type="checkbox"/> Basis of the report</td></tr><tr><td>II</td><td><input type="checkbox"/> Priority</td></tr><tr><td>III</td><td><input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td></tr><tr><td>IV</td><td><input type="checkbox"/> Lack of unity of invention</td></tr><tr><td>V</td><td><input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td></tr><tr><td>VI</td><td><input type="checkbox"/> Certain documents cited</td></tr><tr><td>VII</td><td><input type="checkbox"/> Certain defects in the international application</td></tr><tr><td>VIII</td><td><input type="checkbox"/> Certain observations on the international application</td></tr></table>	I	<input checked="" type="checkbox"/> Basis of the report	II	<input type="checkbox"/> Priority	III	<input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	IV	<input type="checkbox"/> Lack of unity of invention	V	<input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	VI	<input type="checkbox"/> Certain documents cited	VII	<input type="checkbox"/> Certain defects in the international application	VIII	<input type="checkbox"/> Certain observations on the international application
I	<input checked="" type="checkbox"/> Basis of the report															
II	<input type="checkbox"/> Priority															
III	<input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability															
IV	<input type="checkbox"/> Lack of unity of invention															
V	<input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement															
VI	<input type="checkbox"/> Certain documents cited															
VII	<input type="checkbox"/> Certain defects in the international application															
VIII	<input type="checkbox"/> Certain observations on the international application															

Date of submission of the demand 14 October 1997	Date of completion of the report 26 February 1998
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE IP AUSTRALIA PO BOX 200 WODEN ACT 2606 AUSTRALIA Facsimile No. (02) 6285 3929	Authorized Officer  <b>DAVID MELHUISH</b> Telephone No. (02) 6283 2426

## I. Basis of the report

1. This report has been drawn on the basis of (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.):

the international application as originally filed.

the description, pages 6-14, as originally filed,

pages , filed with the demand,

pages 1-5, filed with the letter of 13 February 1998,

pages 5.1, filed with the letter of 26 February 1998.

the claims, Nos. , as originally filed,

Nos. , as amended under Article 19,

Nos. , filed with the demand,

Nos. 1-18, filed with the letter of 13 February 1998,

Nos. , filed with the letter of

the drawings, sheets/fig 1/9-9/9, as originally filed,

sheets/fig , filed with the demand,

sheets/fig , filed with the letter of

sheets/fig , filed with the letter of .

the description,      pages

the claims, Nos.

the drawings, sheets/fig

This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

**4. Additional observations, if necessary:**

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****Statement**

Novelty (N)	Claims 1-18 Claims	YES NO
Inventive step (IS)	Claims 1-18 Claims	YES NO
Industrial applicability (IA)	Claims 1-18 Claims	YES NO

**2. Citations and explanations**Claims 1-18:

D1 US 4969554 A  
D2 WO 94/08642 A  
D3 US 3013656 A  
D4 FR 2646770 A  
D5 WO 88/08313 A  
D6 US 3696920 A  
D7 Allen & Hanbury's 1957 Catalogue, page 588, reference number 49100.

None of the above citations, nor obvious combination thereof, disclose a container for a sharp instrument that has inclined guide means for guiding a sharp instrument to an instrument recess in the container. Although it is obvious to make a container that matches the shape of the instrument being held by the container, the provision of guide means is considered to be non-obvious.

# PATENT COOPERATION TREATY

PCT

**NOTIFICATION OF ELECTION**  
**(PCT Rule 61.2)**

## **From the INTERNATIONAL BUREAU**

To:

United States Patent and Trademark  
Office  
(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ETATS-UNIS D'AMERIQUE

**in its capacity as elected Office**

Date of mailing (day/month/year) 28 October 1997 (28.10.97)	in its capacity as elected Office
International application No. PCT/AU97/00259	Applicant's or agent's file reference
International filing date (day/month/year) 29 April 1997 (29.04.97)	Priority date (day/month/year) 30 April 1996 (30.04.96)
Applicant  CAVANAGH, Michael, Shane	

**1. The designated Office is hereby notified of its election made:**

in the demand filed with the International Preliminary Examining Authority on:

**14 October 1997 (14.10.97)**

in a notice effecting later election filed with the International Bureau on:

2. The election  was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<p><b>The International Bureau of WIPO</b>  <b>34, chemin des Colombettes</b>  <b>1211 Geneva 20, Switzerland</b></p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p><b>Authorized officer</b></p> <p><b>Eugénia Santos</b></p> <p>Telephone No.: (41-22) 338.83.38</p>
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## PATENT COOPERATION TREATY

PCT

**NOTIFICATION OF ELECTION**

## From the INTERNATIONAL BUREAU

To:

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Crystal Plaza 2  
Washington, DC 20231  
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing: 06 November 1997 (06.11.97)	in its capacity as elected Office
International application No.: PCT/AU97/00259	Applicant's or agent's file reference:
International filing date: 29 April 1997 (29.04.97)	Priority date: 30 April 1996 (30.04.96)
Applicant: CAVANAGH, Michael, Shane	

1. The designated Office is hereby notified of its election made:

in the demand filed with the International preliminary Examining Authority on:

14 October 1997 (14.10.97)

in a notice effecting later election filed with the International Bureau on:

2. The election  was

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was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<p><b>The International Bureau of WIPO</b>  <b>34, chemin des Colombettes</b>  <b>1211 Geneva 20, Switzerland</b></p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p>Authorized officer:</p> <p style="text-align: center;"><b>J. Zahra</b></p> <p>Telephone No.: (41-22) 338.83.38</p>
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"CONTAINER"**Technical Field**

This invention relates to containers.

5 The invention has particular but not exclusive application to containers such as trays for use in surgical procedures for holding a sharp instrument having a cutting portion.

As used herein the expression "sharp instrument" 10 includes equipment which can cut, puncture or otherwise be invasive such as scalpels, needles and other sharp or pointed surgical instruments. The expression "cutting portion" is to be taken to include any surface, edge or point which cuts, punctures or is otherwise invasive and 15 includes a scalpel blade and a needle point.

**Background of Invention**

During an operation, a scalpel is transferred between surgeon and scrub nurse or other assistant either 20 directly from hand to hand, or more frequently by one person placing it in a tray for the other to pick up. The tray currently used for this purpose is an open topped kidney shaped dish which provides users with no protection against accidental injury from the scalpel 25 blade. Many other instruments such as suture needles and Veress needles are passed directly between the surgeon and scrub nurse or other assistant.

The present invention aims to provide an alternative to known containers, systems and methods for the handling 30 of sharp instruments during surgical procedures.

**Summary of Invention**

This invention in one aspect resides broadly in a container for holding a sharp instrument having a handle 35 portion and a cutting portion, the sharp instrument being held within the container to be easily accessible during surgical procedures, the container including:-

an instrument recess adapted to receive at least the

cutting portion of the sharp instrument, and

inclined guide means for guiding a sharp instrument placed in the container to the instrument recess;

the arrangement being such that a sharp instrument  
5 received within the instrument recess is positioned therein to be easily accessible for re-use during surgical procedures and such that the cutting portion thereof is not directed towards the opening of the instrument recess whereby a user's fingers are  
10 substantially prevented from contacting the cutting portion.

The guide means may converge toward the instrument recess and in a preferred embodiment the container includes inclined walls converging to the opening, the  
15 inclined walls constituting the guide means.

In one embodiment the instrument recess is elongated and closed at each end, is adapted to receive a scalpel and along two opposite lengths thereof has a cross sectional configuration of width slightly greater than  
20 the major cross-sectional dimension of a scalpel and depth slightly greater than the minor cross-sectional dimension of a scalpel, the length of the instrument recess being such that the scalpel blade is located within one of the opposite lengths irrespective of the  
25 position of the scalpel in the instrument recess.

It is preferred that the instrument recess has sidewalls and a base, the junctions thereof being radiussed such that a scalpel is disposed to rest in the recess with its major cross-sectional dimension parallel  
30 to the base.

The container may include access means for providing a user with access to the scalpel handle for removing the scalpel from the instrument recess.

The access means could be a pivoting lever  
35 arrangement adapted to elevate the scalpel handle portion or alternatively a portion of the container sidewall can pivot to achieve this effect. However the access means is preferably a finger access recess, the cross sectional

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configuration of the finger access recess being such as to allow a user's fingers to contact the scalpel handle for removing the scalpel from the instrument recess, the position of the finger access recess being such that the 5 scalpel blade is not located within the finger access recess irrespective of the position of the scalpel in the instrument recess.

The container may include barrier means for preventing a user's fingers entering the instrument 10 recess. The barrier means may constitute the opening to the instrument recess, the width of the opening being such as to allow a scalpel to enter the recess but to prevent a user's fingers entering the recess.

In one preferred embodiment the container may 15 include handle means whereby a user can hold the container. Alternatively, the container may include handle mounting means for mounting a detachable handle whereby a user can hold the container.

In another embodiment the container has a plurality 20 of the instrument recesses each adapted to receive a scalpel therein.

In a further embodiment the container is adapted to contain a suture needle holder and a suturing needle held thereby, and the instrument recess is substantially semi-25 cylindrical and adapted to receive the suturing needle.

In an alternative embodiment the container is adapted to contain a straight needle and a suture threaded thereto, and the instrument recess is elongated and closed at one end and adapted to receive the straight 30 needle, the container also including a suture recess for receiving the suture. This arrangement may also be included in the container adapted to contain a suture needle holder and a suturing needle.

In another aspect this invention resides broadly in 35 a container for holding a scalpel during surgical procedures, the container including:-

an elongated scalpel recess closed at each end and adapted to receive a scalpel, and having two opposite

lengths of cross-sectional configuration with width slightly greater than that of the major cross-sectional dimension of the scalpel and depth slightly greater than that of the minor cross-sectional dimension of the scalpel, the length of the scalpel recess being such that the scalpel blade is located within one of the opposite lengths irrespective of the position of the scalpel in the scalpel recess, and

guide means for guiding a scalpel placed in the container to the scalpel recess;

the arrangement being such that a scalpel received within the scalpel recess is positioned therein such that the scalpel blade is not directed towards the opening of the scalpel recess whereby a user's fingers are substantially prevented from contacting the scalpel blade.

In a further aspect this invention resides broadly in a container for holding a suture needle holder and a suturing needle held thereby during surgical procedures, the container including:-

a substantially semi-cylindrical needle recess adapted to receive the suturing needle therein, and

guide means for guiding a suturing needle held by a suture needle holder to the needle recess;

the arrangement being such that a suturing needle received within the needle recess is positioned therein such that the point of the suturing needle is positioned within the needle recess such that a user's fingers are substantially prevented from contacting the point.

In another aspect this invention also resides broadly in a container for holding a straight needle and a suture threaded thereto, the straight needle and threaded suture being held within the container to be easily accessible during surgical procedures, the container including:-

an elongated needle recess closed at one end and adapted to receive a straight needle therein;

a suture recess for receiving the suture, and

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inclined guide means for guiding a straight needle placed in the container to the needle recess;

the arrangement being such that a straight needle received within the needle recess is positioned therein 5 to be easily accessible for re-use during surgical procedures and such that the point of the straight needle is positioned within the needle recess such that a user's fingers are substantially prevented from contacting the point.

10 In another aspect this invention resides broadly in a method of transferring a sharp instrument having a handle portion and a cutting portion between operators during a surgical procedure, wherein:-

15 the transferor of the sharp instrument places the sharp instrument in an instrument recess in an instrument holding container, the sharp instrument being held within the container to be easily accessible during surgical procedures, and

20 the receiver or transferee of the sharp instrument removes the sharp instrument from the instrument recess;

the instrument recess being adapted to receive at least the cutting portion of the sharp instrument, and the instrument holding container having inclined guide means for guiding a sharp instrument placed therein to 25 the instrument recess, the arrangement being such that a sharp instrument received within the instrument recess is positioned therein to be easily accessible for re-use during surgical procedures and such that the cutting portion thereof is not directed towards the opening of 30 the instrument recess whereby an operator's fingers are substantially prevented from contacting the cutting portion.

#### Description of Drawings

35 In order that this invention may be more easily understood and put into practical effect, reference will now be made to the accompanying drawings which illustrate a preferred embodiment of the invention, wherein:-

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## 5.1

FIGS 1 and 1A respectively are perspective and plan views of a container in accordance with the invention for holding a scalpel;

5 FIGS 2 and 2A respectively are perspective and plan views of a container in accordance with the invention for holding a plurality of scalpels;

10 FIGS 3 and 3A respectively are perspective and plan views of a container in accordance with the invention for holding a suturing needle holder and a suture needle held thereby;

FIGS 4 and 4A respectively are perspective and plan

**Claims**

1. A container for holding a sharp instrument having a handle portion and a cutting portion, the sharp instrument being held within the container to be easily accessible during surgical procedures, said container including:-

an instrument recess adapted to receive at least the cutting portion of said sharp instrument, and

10 inclined guide means for guiding a sharp instrument placed in said container to said instrument recess;

the arrangement being such that a sharp instrument received within said instrument recess is positioned therein to be easily accessible for re-use during 15 surgical procedures and such that the cutting portion thereof is not directed towards the opening of the instrument recess whereby a user's fingers are substantially prevented from contacting said cutting portion.

20

2. A container as claimed in claim 1, wherein said container includes inclined walls converging to said opening, the inclined walls constituting said guide means.

25

3. A container as claimed in claim 1, wherein said instrument recess is elongated and closed at each end, is adapted to receive a scalpel and along two opposite lengths thereof has a cross sectional configuration of 30 width slightly greater than the major cross-sectional dimension of a scalpel and depth slightly greater than the minor cross-sectional dimension of a scalpel, the length of said instrument recess being such that the scalpel blade is located within one of said opposite 35 lengths irrespective of the position of the scalpel in the instrument recess.

4. A container as claimed in claim 3, wherein said

instrument recess has sidewalls and a base, the junctions thereof being radiussed such that a scalpel is disposed to rest in the recess with its major cross-sectional dimension parallel to said base.

5

5. A container as claimed in claim 3, and including access means for providing a user with access to the scalpel handle for removing the scalpel from said instrument recess.

10

6. A container as claimed in claim 5, wherein said access means includes a finger access recess, the cross sectional configuration of said finger access recess being such as to allow a user's fingers to contact the scalpel handle for removing the scalpel from said instrument recess, the position of said finger access recess being such that the scalpel blade is not located within said finger access recess irrespective of the position of the scalpel in the instrument recess.

15

7. A container as claimed in claim 1, and including barrier means for preventing a user's fingers entering said instrument recess.

20

8. A container as claimed in claim 7, wherein said barrier means constitutes the opening to said instrument recess, the width of said opening being such as to allow a scalpel to enter the recess but to prevent a user's fingers entering the recess.

25

9. A container as claimed in claim 1, and including handle means whereby a user can hold the container.

30

10. A container as claimed in claim 1, and including handle mounting means for mounting a detachable handle whereby a user can hold the container.

11. A container as claimed in claim 1, and including a

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plurality of said instrument recesses each adapted to receive a scalpel therein.

12. A container as claimed in claim 1 and adapted to contain a suture needle holder and a suturing needle held thereby, wherein said instrument recess is substantially semi-cylindrical and adapted to receive said suturing needle.

10 13. A container as claimed in claim 1 and adapted to contain a straight needle and a suture threaded thereto, wherein said instrument recess is elongated and closed at one end and adapted to receive said straight needle, and including a suture recess for receiving said suture.

15

14. A container as claimed in claim 12, and including a container as claimed in claim 13.

15. A container for holding a scalpel during surgical procedures, said container including:-

an elongated scalpel recess closed at each end and adapted to receive a scalpel, and having two opposite lengths of cross-sectional configuration with width slightly greater than that of the major cross-sectional dimension of the scalpel and depth slightly greater than that of the minor cross-sectional dimension of the scalpel, the length of said scalpel recess being such that the scalpel blade is located within one of said opposite lengths irrespective of the position of the scalpel in the scalpel recess, and

guide means for guiding a scalpel placed in said container to said scalpel recess;

the arrangement being such that a scalpel received within said scalpel recess is positioned therein such that the scalpel blade is not directed towards the opening of the scalpel recess whereby a user's fingers are substantially prevented from contacting the scalpel blade.

16. A container for holding a suture needle holder and a suturing needle held thereby during surgical procedures, the container including:-

5 a substantially semi-cylindrical needle recess adapted to receive the suturing needle therein, and

guide means for guiding a suturing needle held by a suture needle holder to said needle recess;

10 the arrangement being such that a suturing needle received within said needle recess is positioned therein such that the point of the suturing needle is positioned within the needle recess such that a user's fingers are substantially prevented from contacting the point.

17. A container for holding a straight needle and a suture threaded thereto, the straight needle and threaded suture being held within the container to be easily accessible during surgical procedures, the container including:-

20 an elongated needle recess closed at one end and adapted to receive a straight needle therein;

a suture recess for receiving said suture, and inclined guide means for guiding a straight needle placed in said container to said needle recess;

25 the arrangement being such that a straight needle received within said needle recess is positioned therein to be easily accessible for re-use during surgical procedures and such that the point of the straight needle is positioned within the needle recess such that a user's fingers are substantially prevented from contacting the 30 point.

18. A method of transferring a sharp instrument having a handle portion and a cutting portion between operators during a surgical procedure, wherein:-

35 the transferor of the sharp instrument places the sharp instrument in an instrument recess in an instrument holding container, the sharp instrument being held within the container to be easily accessible during surgical

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ptocedures, and

the receiver or transferee of the sharp instrument removes the sharp instrument from said instrument recess;

said instrument recess being adapted to receive at least the cutting portion of said sharp instrument, and said instrument holding container having inclined guide means for guiding a sharp instrument placed therein to said instrument recess, the arrangement being such that a sharp instrument received within said instrument recess is positioned therein to be easily accessible for re-use during surgical procedures and such that the cutting portion thereof is not directed towards the opening of the instrument recess whereby an operator's fingers are substantially prevented from contacting said cutting portion.

09/101864

## CONTAINER FOR SHARP INSTRUMENTS

**Technical Field**

This invention relates to containers.

5 The invention has particular but not exclusive application to containers such as trays for use in surgical procedures for holding a sharp instrument having a cutting portion.

As used herein the expression "sharp instrument" 10 includes equipment which can cut, puncture or otherwise be invasive such as scalpels, needles and other sharp or pointed surgical instruments. The expression "cutting portion" is to be taken to include any surface, edge or point which cuts, punctures or is otherwise invasive and 15 includes a scalpel blade and a needle point.

**Background of Invention**

During an operation, a scalpel is transferred between surgeon and scrub nurse or other assistant either 20 directly from hand to hand, or more frequently by one person placing it in a tray for the other to pick up. The tray currently used for this purpose is an open topped kidney shaped dish which provides users with no protection against accidental injury from the scalpel 25 blade. Many other instruments such as suture needles and Veress needles are passed directly between the surgeon and scrub nurse or other assistant.

The present invention aims to provide an alternative to known containers, systems and methods for the handling 30 of sharp instruments during surgical procedures.

**Summary of Invention**

This invention in one aspect resides broadly in a container for holding a sharp instrument having a handle 35 portion and a cutting portion during surgical procedures, the container including:-

an instrument recess adapted to receive at least the cutting portion of the sharp instrument, and

guide means for guiding a sharp instrument placed in the container to the instrument recess;

the arrangement being such that a sharp instrument received within the instrument recess is positioned 5 therein such that the cutting portion thereof is not directed towards the opening of the instrument recess whereby a user's fingers are substantially prevented from contacting the cutting portion.

The guide means may converge toward the instrument 10 recess and in a preferred embodiment the container includes inclined walls converging to the opening, the inclined walls constituting the guide means.

In one embodiment the instrument recess is elongated and closed at each end, is adapted to receive a scalpel 15 and along two opposite lengths thereof has a cross sectional configuration of width slightly greater than the major cross-sectional dimension of a scalpel and depth slightly greater than the minor cross-sectional dimension of a scalpel, the length of the instrument 20 recess being such that the scalpel blade is located within one of the opposite lengths irrespective of the position of the scalpel in the instrument recess.

It is preferred that the instrument recess has sidewalls and a base, the junctions thereof being 25 radiussed such that a scalpel is disposed to rest in the recess with its major cross-sectional dimension parallel to the base.

The container may include access means for providing 30 a user with access to the scalpel handle for removing the scalpel from the instrument recess.

The access means could be a pivoting lever arrangement adapted to elevate the scalpel handle portion or alternatively a portion of the container sidewall can pivot to achieve this effect. However the access means 35 is preferably a finger access recess, the cross sectional configuration of the finger access recess being such as to allow a user's fingers to contact the scalpel handle for removing the scalpel from the instrument recess, the

position of the finger access recess being such that the scalpel blade is not located within the finger access recess irrespective of the position of the scalpel in the instrument recess.

5       The container may include barrier means for preventing a user's fingers entering the instrument recess. The barrier means may constitute the opening to the instrument recess, the width of the opening being such as to allow a scalpel to enter the recess but to  
10 prevent a user's fingers entering the recess.

In one preferred embodiment the container may include handle means whereby a user can hold the container. Alternatively, the container may include handle mounting means for mounting a detachable handle  
15 whereby a user can hold the container.

In another embodiment the container has a plurality of the instrument recesses each adapted to receive a scalpel therein.

20      In a further embodiment the container is adapted to contain a suture needle holder and a suturing needle held thereby, and the instrument recess is substantially semi-cylindrical and adapted to receive the suturing needle.

25      In an alternative embodiment the container is adapted to contain a straight needle and a suture threaded thereto, and the instrument recess is elongated and closed at one end and adapted to receive the straight needle, the container also including a suture recess for receiving the suture. This arrangement may also be included in the container adapted to contain a suture  
30      needle holder and a suturing needle.

In another aspect this invention resides broadly in a container for holding a scalpel during surgical procedures, the container including:-

35      an elongated scalpel recess closed at each end and adapted to receive a scalpel, and having two opposite lengths of cross-sectional configuration with width slightly greater than that of the major cross-sectional dimension of the scalpel and depth slightly greater than

that of the minor cross-sectional dimension of the scalpel, the length of the scalpel recess being such that the scalpel blade is located within one of the opposite lengths irrespective of the position of the scalpel in  
5 the scalpel recess, and

guide means for guiding a scalpel placed in the container to the scalpel recess;

the arrangement being such that a scalpel received within the scalpel recess is positioned therein such that  
10 the scalpel blade is not directed towards the opening of the scalpel recess whereby a user's fingers are substantially prevented from contacting the scalpel blade.

In a further aspect this invention resides broadly  
15 in a container for holding a suture needle holder and a suturing needle held thereby during surgical procedures, the container including:-

a substantially semi-cylindrical needle recess adapted to receive the suturing needle therein, and

20 guide means for guiding a suturing needle held by a suture needle holder to the needle recess;

the arrangement being such that a suturing needle received within the needle recess is positioned therein such that the point of the suturing needle is positioned  
25 within the needle recess such that a user's fingers are substantially prevented from contacting the point.

In another aspect this invention also resides broadly in a container for holding a straight needle and a suture threaded thereto during surgical procedures, the  
30 container including:-

an elongated needle recess closed at one end and adapted to receive a straight needle therein;

a suture recess for receiving the suture, and

35 guide means for guiding a straight needle placed in the container to the needle recess;

the arrangement being such that a straight needle received within the needle recess is positioned therein such that the point of the straight needle is positioned

within the needle recess such that a user's fingers are substantially prevented from contacting the point.

In another aspect this invention resides broadly in a method of transferring a sharp instrument having a handle portion and a cutting portion between operators during a surgical procedure, wherein:-

the transferor of the sharp instrument places the sharp instrument in an instrument recess in an instrument holding container, and

10 the receiver or transferee of the sharp instrument removes the sharp instrument from the instrument recess;

the instrument recess being adapted to receive at least the cutting portion of the sharp instrument, and the instrument holding container having guide means for 15 guiding a sharp instrument placed therein to the instrument recess, the arrangement being such that a sharp instrument received within the instrument recess is positioned therein such that the cutting portion thereof is not directed towards the opening of the instrument 20 recess whereby an operator's fingers are substantially prevented from contacting the cutting portion.

#### Description of Drawings

In order that this invention may be more easily 25 understood and put into practical effect, reference will now be made to the accompanying drawings which illustrate a preferred embodiment of the invention, wherein:-

FIGS 1 and 1A respectively are perspective and plan views of a container in accordance with the invention for 30 holding a scalpel;

FIGS 2 and 2A respectively are perspective and plan views of a container in accordance with the invention for holding a plurality of scalpels;

FIGS 3 and 3A respectively are perspective and plan 35 views of a container in accordance with the invention for holding a suturing needle holder and a suture needle held thereby;

FIGS 4 and 4A respectively are perspective and plan

views of a container in accordance with the invention for holding a straight needle and threaded suture;

FIGS 5A to 5E illustrate another embodiment of a container for a scalpel which has a mounting for a handle 5 the illustrations being plan, end, side, end and base elevations respectively;

FIGS 6A to 6C are cross-sectional elevations at sections AA, BB and CC as indicated in FIG 5A;

FIGS 7A and 7B correspond to FIGS 5A and 6A 10 respectively and illustrate a handle mounted in the end mounting bracket mounting;

FIGS 8A to 8C are sectional elevations illustrating another embodiment of the scalpel tray with integral handles formed at an end and side, the sectional 15 elevations corresponding with the sections AA, BB and CC indicated in FIG 5A, and

FIGS 9 and 10 illustrate cross-sectional elevations of alternatively shaped recesses for receiving a scalpel.

## 20 Description of Preferred Embodiment of Invention

FIGS 1 and 1A illustrate a first embodiment of a container 11 for safely containing a scalpel 12 having a handle 13 and blade 14. Container 11 has an elongated recess 15 which is closed at each end 16,17 and receives 25 scalpel 12 as seen in FIG 1A. Scalpel recess 15 has two opposite portions 18 and 19. The width of scalpel recess 15 is slightly greater than that of the major cross-sectional dimension of scalpel 12 (the dimension along the cutting axis, usually the depth of handle 13) and the 30 depth of scalpel recess 15 is slightly greater than that of the minor cross-sectional dimension of the scalpel (usually the width of handle 13).

Sloping side walls 20,21 constitute guide means which guide scalpel 12 when placed in placed in container 35 11 toward scalpel recess 15. Sloping end walls 22,23 also guide the scalpel to toward the scalpel recess.

Intermediate opposite portions 18,19 of scalpel recess 15, finger access recess 24 provides a user with

access to scalpel handle 13 for removing scalpel 12 from scalpel recess 15. Finger access recess 24 has a cross sectional configuration such as to allow a user's fingers to contact the scalpel handle for removing the scalpel 5 from the scalpel recess. Finger access recess 24 is positioned along scalpel recess 15 such that scalpel blade 14 is not located within finger access recess 24 irrespective of the position of scalpel 12 in scalpel recess 15. Moreover the length of scalpel recess 15 is 10 such that scalpel blade 14 is located within one of portions 18,19 irrespective of the position of scalpel 12 in scalpel recess 15 and irrespective of the type of scalpel being used.

Thus the shortest of the available blade and handle 15 combinations, which will of course have the largest fore and aft movement in the recess, will still have its sharp blade positioned outside the central finger access recess.

By suitably configuring the length of scalpel recess 20 15 and the length of finger access recess 24, container 11 is designed to have a universality accommodating all scalpels in a manner such that a scalpel received within the scalpel recess is positioned therein such that the cutting edge of scalpel blade 14 is located in finger 25 access recess 24, and is not directed towards the opening or upper entrance of scalpel recess 15. Accordingly a user's fingers are substantially prevented from contacting scalpel blade 14.

The downwardly sloping side and end walls mean that 30 the less precision is required by users when replacing the scalpel in the container. The downwardly sloping side walls, and also the end walls, direct the scalpel positively toward the scalpel recess. Both scalpel blades and scalpel handles are wider than they are thick, 35 and the scalpel is thus disposed to come to rest in a flat position in the base of the scalpel recess. In this position the sharp scalpel blade is below the upper edge of the scalpel recess. The low centre of gravity of the

container and its relatively wide base provide stability on uneven surfaces such as when placed on a patient's person during a surgical procedure or operation.

FIGS 5A to 5E are plan, end, side, end and base 5 elevations respectively of an alternative container 25 for a scalpel. FIGS 6A to 6C are cross-sectional elevations at sections AA, BB and CC as indicated in FIG 5A. It can be seen that the finger access recess 26 of container 25 has sloping side walls 27,28 and opposed 10 sloping end walls 29,30 and 80,31 on either side of scalpel recess 32. The base 33 of finger access recess 26 extends below the base 34 of scalpel recess 32 to better facilitate the removal from container 25 of a scalpel resting in scalpel recess 32.

15 One end and one side of container 25 each have a mounting assembly 35 for receiving therein and mounting a handle 36 (as seen in FIGS 7A and 7B). Mounting assembly 35 has a cut out slot 37 in a recessed end or side wall 38 which can receive the locking lip 39 of handle 36 as best seen in FIG 7B. A stub portion 40 of handle 36 then 20 sits in heel 41 where recessed end or side wall portion 38 steps out to meet main end or side wall portion 42.

25 Alternatively, as seen in FIGS 8A to 8C, container 43 may be integrally provided with end and side handles 44 and 45.

As can be seen in FIG 9, the sidewalls 46,47 of the scalpel recess 81 can be radiussed at 48,49 to the base 50 of the recess such that a scalpel is disposed to rest 30 in the recess with its major cross-sectional dimension parallel to the base. This even further reduces the already statistically remote possibility that a scalpel will fall into the recess and come to rest with the back of the handle in the junction between the recess sidewall and base and consequently with the scalpel blade 35 uppermost.

In another embodiment seen in FIG 10, the container can be provided with a barrier for preventing a user's fingers entering the instrument recess. The barrier is

formed by narrowing the opening or entrance neck 51 of scalpel recess 52 so that the width of the opening is such as to allow a scalpel to enter the recess as it slides along the flat of the scalpel handle down the 5 sloping sidewalls 53,54 towards neck 51, but to prevent a user's fingers entering the recess.

The upper edges of the recess sidewalls 55,56 are gently sloped and radiussed towards neck 51 so that when a scalpel is being removed from the tray under the action 10 of a user's fingers, the flat of the handle will slide upwardly over one of recess sidewalls 55,56 so that it presents to neck 51 with its narrow handle width transverse to the opening.

FIGS 2 and 2A respectively illustrate a container 57 for holding more than one scalpel and has a plurality of the recesses 58-61 each adapted to receive a scalpel. The multiple scalpel container has a raised section 62 located beneath that portion of the container which will contain the scalpel handles. This allows the user to 20 safely grasp the handle and remove or replace the scalpel blade and its handle into the tray. The recessed area for the scalpel blade minimises the chance of the user accidentally injuring themselves on the sharp scalpel blade. The raised edge wall 63,64 located behind the 25 blade handles combines with the endwall 65 to limit fore and aft movement of a scalpel in a manner described above to minimise the potential of the blade coming into contact with the user's fingers. This provides safety for the user when grasping the handle to remove the 30 scalpels from the tray. Raised section 62 beneath the scalpel handle elevates the handle above the main baseplate section and provides sufficient room for a user to grasp the handle when removing the scalpel.

The tray illustrated stores up to four blades and 35 their handles, two long and two short handles fitted with a variety of scalpel blades. The unit also features a recessed area for the safe storage of long Veress needles 66 used for the introduction of gas into the abdominal

cavity for visualisation of the abdominal and pelvic cavities during surgical operations. The tray will prove useful where more than one scalpel blade is used during a surgical operation as it provides a safe means of storing 5 scalpel blades when they are not in use. The majority of surgical operations require the use of more than one scalpel blade. The tray has a low centre of gravity and being of substantially square shape is stable when positioned on an instrument trolley, thereby reducing the 10 risk of its contents falling out and causing injury.

FIGS 3 and 3A illustrate a container 67 for holding a suturing needle holder 68 and a suture needle 69. Container 67 has a substantially semi-cylindrical recess 70 adapted to receive suturing needle 69. Container 67 15 has a pair of downwardly converging side walls 71, 72 on either side of ramp 73 which constitute guide means for guiding suturing needle 69 held by holder 68 to needle recess 70. The arrangement is such that the substantially semi-circular suturing needles 69 are 20 received within needle recess 70 and positioned therein such that the point of the suturing needle is positioned within recess 70 such that a user's fingers are substantially prevented from contacting the point. Recess 70 also houses the suture material. An elevated 25 flat surface 74 is located at the end of the container remote from recess 70.

A needle holder is shaped like a pair of long fine pliers with a handle locking mechanism. When a holder 68 fully loaded with needle 69 and a suture (not 30 illustrated) is placed into container 67, the suture needle 69 sits below the middle sloping section 73 in a recess 70 and the width of recess 70 allows little fore and aft movement thus offering stability for the needle holder and its attached suture needle. Moreover the 35 point of the suture needle is below the middle ramp section 73 thereby minimising the risk of a user's fingers accidentally coming into contact with the sharp needle. Because the middle ramp section 73 slopes

downwards towards the recess 70, the finger grips 75 of needle holder 68 are elevated above flat surface 74 thereby allowing user's fingers sufficient room to be inserted and facilitating removal of needle holder 68 5 from the container. The unit could be manufactured to suit a variety of needle holder sizes. The low rectangular design of the container provides stability when placed on a patient's person during an operation.

FIGS 4 and 4A illustrate a container 76 which can be 10 incorporated into container 67 (as seen in FIG 3) and which is adapted to contain a straight needle 77 and a suture 78 threaded thereto. Needle recess 79 is elongated and closed at one end 82. Container 76 also has a suture recess 83 for receiving suture 78 threaded 15 to needle 77. Needle recess 79 opens into suture recess 83 and edges 84,85 of suture recess wall 86 constitute guide means for guiding a user placing a straight needle in container 76 within needle recess 79. The arrangement is such that a straight needle received within the needle 20 recess is positioned therein such that the point of the straight needle is positioned within the needle recess such that a user's fingers are substantially prevented from contacting the needle point. The base of container 76 extends outwardly to provide wings 87,88 on either 25 side of the container. As seen in FIG 3, these wings facilitate a sliding drawer function when container 76 is incorporated in container 67. Handle 90 allows container 76 to be easily removed from the underside of the suture needle tray 67. The relatively wide baseplate formed by 30 wings 87,89 also provides stability enabling the container to be placed on a patient's person during an operation.

Suture recess serves the dual purpose of maintaining suture 78 in a sterile environment and provides 35 sufficient room for a user's fingers to grasp the blunt end of the needle. Straight suture needles are very fine and are therefore very light in weight. To ensure that the light needle does not become dislodged during

transfer, a small magnet 89 is positioned beneath needle recess 79.

The containers described above can be made from a range of suitable material as will be well known to those skilled in the art. If intended to be re-used they can be made from autoclavable plastic and will include sufficient steam ventilation holes for autoclaving purposes. Alternatively if intended to be disposable, they can be made cheaply from a suitable plastics material.

In use during surgical procedures, it will be appreciated that containers in accordance with the present invention utilise a principle conferring significant advantages over existing methods, systems and equipment. Sharp instruments are traditionally passed between surgeons, scrub nurses and other theatre staff either directly hand to hand, or by being placed in a container such as a conventional general purpose kidney bowl.

However in accordance with the present invention, the dangers of needle stick injury or other injury from a non-sterile sharp instrument which may have been invasively used on a patient are significantly reduced by utilising a specific purpose-designed container in which the sharp instrument is positioned by the transferor of the sharp instrument and from which the sharp instrument is removed by the transferee or receiver of the sharp instrument, the container of the present invention being such that the sharp instrument is received within an instrument recess and positioned therein such that the cutting portion of the instrument is not directed towards the opening of the instrument recess whereby the fingers of the transferor or transferee are substantially prevented from contacting the cutting portion.

The scalpel container provides substantial advantages and is an improvement on the traditional kidney tray which being an open topped dish gives little if any protection to users against accidental injury from

the scalpel blade. Injury from scalpel blades carry the possibility of an operator contacting a serious or fatal disease and the present invention significantly minimises this risk.

5       The present invention also improves upon the current method for storing scalpels on a scrub nurse's instrument trolley (which is simply to place them into an open kidney shaped dish or to leave them sitting loosely on the sterile cloth drape which covers the instrument trolley).

10      Removing the blade and its handle from these kidney dishes involves the risks mentioned above, and storing them loosely on the drapes not only involves the same risk but also carries the risk of the sharp blade penetrating the cotton trolley drape and rendering the

15      blade tip unsterile. This would then render the cloth trolley unsterile as well and would also put the patient at risk of contracting an infection.

The suturing needle container also has a number of significant advantages. Suture materials vary in length and in elasticity and some modern materials are very loose and fall freely under gravity to their full length. In an operating theatre anything that falls below scrub nurse waist level is deemed to be unsterile and endangers the patient of contracting an intra-operative infection.

25      This frequently occurs with known methods of needle holder and suture transfer between surgeon and scrub nurse. Storing all the suture material in the dished recessed area of the tray avoids this problem. The tray also protects the patient against needle stick injury.

30      Often when the scrub nurse is busy, the surgeon if finished the operation will place a needle holder with a suture needle loaded onto it onto the drapes covering the patient. This can then penetrate the drapes and injure the patient. Personal transfer of a loaded needle holder

35      from one person to another, as commonly occurs in known systems, carries a high risk of needle stick injury. The suture tray of the present invention significantly minimises all these risks.

The physical transfer of straight needles between members of a surgical team also involves an extremely high risk of needle stick injury and this is also significantly minimised by the straight needle container 5 of the present invention.

It will of course be realised that whilst the above has been given by way of an illustrative example of this invention, all such and other modifications and variations hereto, as would be apparent to persons 10 skilled in the art, are deemed to fall within the broad scope and ambit of this invention as is herein set forth.

**Claims**

1. A container for holding a sharp instrument having a handle portion and a cutting portion during surgical  
5 procedures, said container including:-

an instrument recess adapted to receive at least the cutting portion of said sharp instrument, and

guide means for guiding a sharp instrument placed in said container to said instrument recess;

10 the arrangement being such that a sharp instrument received within said instrument recess is positioned therein such that the cutting portion thereof is not directed towards the opening of the instrument recess whereby a user's fingers are substantially prevented from  
15 contacting said cutting portion.

2. A container as claimed in claim 1, wherein said container includes inclined walls converging to said opening, the inclined walls constituting said guide  
20 means.

3. A container as claimed in claim 1, wherein said instrument recess is elongated and closed at each end, is adapted to receive a scalpel and along two opposite  
25 lengths thereof has a cross sectional configuration of width slightly greater than the major cross-sectional dimension of a scalpel and depth slightly greater than the minor cross-sectional dimension of a scalpel, the length of said instrument recess being such that the  
30 scalpel blade is located within one of said opposite lengths irrespective of the position of the scalpel in the instrument recess.

4. A container as claimed in claim 3, wherein said  
35 instrument recess has sidewalls and a base, the junctions thereof being radiussed such that a scalpel is disposed to rest in the recess with its major cross-sectional dimension parallel to said base.

5. A container as claimed in claim 3, and including access means for providing a user with access to the scalpel handle for removing the scalpel from said instrument recess.

5

6. A container as claimed in claim 5, wherein said access means includes a finger access recess, the cross sectional configuration of said finger access recess being such as to allow a user's fingers to contact the 10 scalpel handle for removing the scalpel from said instrument recess, the position of said finger access recess being such that the scalpel blade is not located within said finger access recess irrespective of the position of the scalpel in the instrument recess.

15

7. A container as claimed in claim 1, and including barrier means for preventing a user's fingers entering said instrument recess.

20 8. A container as claimed in claim 7, wherein said barrier means constitutes the opening to said instrument recess, the width of said opening being such as to allow a scalpel to enter the recess but to prevent a user's fingers entering the recess.

25

9. A container as claimed in claim 1, and including handle means whereby a user can hold the container.

30 10. A container as claimed in claim 1, and including handle mounting means for mounting a detachable handle whereby a user can hold the container.

35 11. A container as claimed in claim 1, and including a plurality of said instrument recesses each adapted to receive a scalpel therein.

12. A container as claimed in claim 1 and adapted to contain a suture needle holder and a suturing needle held

thereby, wherein said instrument recess is substantially semi-cylindrical and adapted to receive said suturing needle.

5 13. A container as claimed in claim 1 and adapted to contain a straight needle and a suture threaded thereto, wherein said instrument recess is elongated and closed at one end and adapted to receive said straight needle, and including a suture recess for receiving said suture.

10

14. A container as claimed in claim 12, and including a container as claimed in claim 13.

15 15. A container for holding a scalpel during surgical procedures, said container including:-

an elongated scalpel recess closed at each end and adapted to receive a scalpel, and having two opposite lengths of cross-sectional configuration with width slightly greater than that of the major cross-sectional dimension of the scalpel and depth slightly greater than that of the minor cross-sectional dimension of the scalpel, the length of said scalpel recess being such that the scalpel blade is located within one of said opposite lengths irrespective of the position of the scalpel in the scalpel recess, and

guide means for guiding a scalpel placed in said container to said scalpel recess;

the arrangement being such that a scalpel received within said scalpel recess is positioned therein such that the scalpel blade is not directed towards the opening of the scalpel recess whereby a user's fingers are substantially prevented from contacting the scalpel blade.

35 16. A container for holding a suture needle holder and a suturing needle held thereby during surgical procedures, the container including:-

a substantially semi-cylindrical needle recess

adapted to receive the suturing needle therein, and  
guide means for guiding a suturing needle held by a  
suture needle holder to said needle recess;  
the arrangement being such that a suturing needle  
5 received within said needle recess is positioned therein  
such that the point of the suturing needle is positioned  
within the needle recess such that a user's fingers are  
substantially prevented from contacting the point.

10 17. A container for holding a straight needle and a  
suture threaded thereto during surgical procedures, the  
container including:-

an elongated needle recess closed at one end and  
adapted to receive a straight needle therein;

15 a suture recess for receiving said suture, and  
guide means for guiding a straight needle placed in  
said container to said needle recess;  
the arrangement being such that a straight needle  
received within said needle recess is positioned therein  
20 such that the point of the straight needle is positioned  
within the needle recess such that a user's fingers are  
substantially prevented from contacting the point.

18. A method of transferring a sharp instrument having a  
25 handle portion and a cutting portion between operators  
during a surgical procedure, wherein:-

the transferor of the sharp instrument places the  
sharp instrument in an instrument recess in an instrument  
holding container, and

30 the receiver or transferee of the sharp instrument  
removes the sharp instrument from said instrument recess;  
said instrument recess being adapted to receive at  
least the cutting portion of said sharp instrument, and  
said instrument holding container having guide means for  
35 guiding a sharp instrument placed therein to said  
instrument recess, the arrangement being such that a  
sharp instrument received within said instrument recess  
is positioned therein such that the cutting portion

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thereof is not directed towards the opening of the instrument recess whereby an operator's fingers are substantially prevented from contacting said cutting portion.

5

## INTERNATIONAL SEARCH REPORT

International Application No.  
PCT/AU 97/00259**A. CLASSIFICATION OF SUBJECT MATTER**Int Cl<sup>6</sup>: A61B 17/06 19/02

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC : A61B 17/06 19/02 B65D 85/20 85/24

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

AU : IPC as above, A61M 5/00

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DERWENT

JAPIO

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4969554 A (SAWAYA) 13 November 1990 column 1 line 66-68, Figure 1	1-4, 9, 10, 13, 14, 16-18
X	WO 94/08642 A (ABBOTT LABORATORIES) 28 April 1994 page 3 lines 15-16, figure 3	1, 3, 5-10, 12, 13, 16, 17
X	US 3013656 A (MURPHY) 19 December 1961 figure 1	1, 3, 5-10, 12, 13, 16, 17



Further documents are listed in the continuation of Box C



See patent family annex

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document but published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search  
2 June 1997

Date of mailing of the international search report

23 JUN 1997

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**INTERNATIONAL SEARCH REPORT**

## Information on patent family members

International Application No.

PCT/AU 97/00259

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report				Patent Family Member			
US	4969554	AU WO	72439/91 9111375	BR	9105880	EP	513178
WO	9408642	AU	46820/93				
FR	2646770						
WO	8808313	AU NO	15962/88 885694	EP US	310646 5187850	GB	2209949
END OF ANNEX							